



# Geometry Syllabus 2021-2022

**Teacher: Mr. Jose J. Jaramillo**

**Phone: (956) 271-1600 ext. 4167**

## **Course Description:**

Topics covered include the language of geometry (points, lines, planes and angles), reasoning and proofs (paragraph, two column, flow, indirect, and coordinate), parallel and perpendicular lines, congruent triangles, applications of congruent triangles, quadrilaterals, similarity, right triangles and trigonometry, circles, polygons and area, surface area and volume, coordinate geometry, and transformations.

## **Course Objective:**

Students will acquire and demonstrate knowledge of concepts, definitions, properties, and applications of the topics listed above as well as develop the computational skills and strategies needed to solve problems. Students will develop critical thinking and decision-making skills by connecting concepts to practical applications.

## **Grading:**

60% Major Assignments: Tests, Reports, Projects

40% Minor Assignments: Classwork, Homework, Quizzes, Composition Book Checkpoints

**\*\*see district grading policy for specifications\*\***

## **Required Materials:**

- 1 composition book
- Pencils/Pens
- Highlighters
- Protractor
- Glue/Glue Stick
- Scissors
- Markers/Color Pencils

## **Expectations:**

- \*Be on time and prepared
- \*Bring your workbook and supplies
- \*Follow School Rules
- \*Be respectful

**Tutoring:** Tuesday and Friday 4 – 5 PM

**Conference:** 2<sup>nd</sup> Block

**Course Schedule:** *This is tentative and subject to change.*

**Unit 1: Logical Argument and Constructions; Proofs and Congruence**

Lesson	Classwork/Homework	Due Date
Topic 1: Tools of Geometry		
1-1: Points, Lines, and Planes		
1-2: Measuring Segments		
1-3: Measuring Angles		
1-4: Exploring Angle Pairs		
1-5: Basic Constructions		
Topic 2: Reasoning and Proof		
2-1: Patterns and Conjectures		
2-2: Conditional Statements		
2-3: Biconditional and Definitions		
2-4: Deductive Reasoning		
2-5: Reasoning in Algebra and Geometry		
2-6: Proving Angles Congruent		
Topic 3: Parallel and Perpendicular Lines		
3-1: Lines and Angles		
3-2: Properties of Parallel Lines		
3-3: Proving Lines Parallel		
3-4: Parallel and Perpendicular Lines		
3-5: Parallel Lines and Triangles		
3-6: Constructing Parallel and Perpendicular Lines		
3-7: Equations of Lines in the Coordinate Plane		
3-8: Slopes of Parallel and Perpendicular Lines		
3-9: Comparing Spherical and Euclidean Geometry		
Topic 4: Congruent Triangles		
4-1: Congruent Figures		
4-2: Triangle Congruence by SSS and SAS		
4-3: Triangle Congruence by ASA and AAS		
4-4: Using Corresponding Parts of Congruent Triangles		
4-5: Isosceles and Equilateral Triangles		
4-6: Congruence in Right Triangles		
4-7: Congruence in Overlapping Triangles		
Topic 5: Relationships within Triangles		
5-1: Midpoint and Distance in the Coordinate Plane		
5-2: Midsegments of Triangles		
5-3: Perpendicular and Angle Bisector		
5-4: Bisectors in Triangles		
5-5: Medians and Altitudes		
5-6: Indirect Proof		
5-7: Inequalities in One Triangle		
5-8: Inequalities in Two Triangles		
Topic 6: Polygons and Quadrilaterals		
6-1: The Polygon Angle-Sum Theorems		
6-2: Properties of Parallelograms		
6-3: Proving That a Quadrilateral Is a Parallelogram		
6-4: Properties of Rhombuses, Rectangles, and Squares		

6-5: Conditions for Rhombuses, Rectangles, and Squares		
6-6: Trapezoids and Kites		

Unit 2: Coordinate and Transformational Geometry		
Lesson	Classwork/Homework	Due Date
Topic 7: Coordinate Geometry		
7-1: Polygons in the Coordinate Plane		
7-2: Applying Coordinate Geometry		
7-3: Proofs Using Coordinate Geometry		
Topic 8: Transformational Geometry		
8-1: Translations		
8-2: Reflections		
8-3: Rotations		
8-4: Symmetry		
8-5: Compositions of Rigid Transformations		
8-6: Congruence Transformations		
8-7: Dilations		
8-8: Other Non-Rigid Transformations		

Unit 3: Similarity, Proof, and Trigonometry		
Lesson	Classwork/Homework	Due Date
Topic 9: Similarity		
9-1: Similar Polygons		
9-2: Similarity Transformations		
9-3: Proving Triangles Similar		
9-4: Similarity in Right Triangles		
9-5: Proportions in Triangles		
Topic 10: Right Triangles and Trigonometry		
10-1: The Pythagorean Theorem and Its Converse		
10-2: Special Right Triangles		
10-3: Trigonometry		
10-4: Angles of Elevation and Depression		

Unit 4: Circles		
Lesson	Classwork/Homework	Due Date
Topic 11: Circle Measurement		
11-1: Circles and Arcs		
11-2: Radian Measure		
11-3: Areas of Circles and Sectors		
11-4: Circles in the Coordinate Plane		
Topic 12: Theorems about Circles		
12-1: Tangent Lines		
12-2: Chords and Arcs		
12-3: Inscribed Angles		
12-4: Angle Measures and Segment Lengths		

Unit 5: Two-Dimensional and Three-Dimensional Figures		
Lesson	Classwork/Homework	Due Date
Topic 13: Area		
13-1: Areas of Parallelograms and Triangles		
13-2: Areas of Trapezoids, Rhombuses, and Kites		
13-3: Areas of Regular Polygons		
13-4: Perimeters and Areas of Similar Figures		
13-5: Trigonometry and Area		
Topic 14: Surface Area and Volume		
14-1: Three-Dimensional Figure and Cross Sections		
14-2: Surface Areas of Prisms and Cylinders		
14-3: Surface Areas of Pyramid and Cones		
14-4: Volumes Prisms and Cylinders		
14-5: Volumes of Pyramids and Cones		
14-6: Surface Areas and Volumes of Spheres		
14-7: Surface Areas and Volumes of Related Solids		